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United States Department of Agriculture

Animal and Plant Health Inspection Service

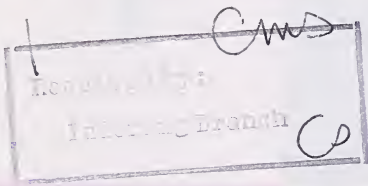
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# African Horse Sickness

An Old Disease—A New Menace

2002



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## An Old Disease—A New Menace

African horse sickness (AHS) is a highly infectious viral disease of horses, donkeys, mules, and other equines. The disease is spread by biting insects. Because there is no treatment, AHS often kills up to 95 percent of the animals that become infected. It does not affect humans.

### Where It Occurs

AHS occurs in many parts of Africa. The disease has also been reported in Asia, the Middle East, and the Iberian Peninsula of Europe. It has not been found in the Americas or Australia.

### How It Spreads

AHS is spread by tiny gnats (*Culicoides* species) and possibly by other biting insects, most of which are active from twilight until dawn. Stabling animals at night reduces the chances of infection.

Gnats in the *Culicoides* group are found throughout the world; many species occur in the United States. They can be carried long distances in air currents or inside trains, ships, and planes.

Gnats pick up the AHS virus by biting an infected horse and then spread the disease when they subsequently attack susceptible animals.

AHS is not contagious and cannot be spread by direct contact between infected and uninfected equines.

The disease can be introduced into new areas in two ways:

- By virus-carrying insects.
- By infected horses, mules, and donkeys acting as reservoirs of disease. When infected animals are moved into AHS-free areas, native gnats soon pick up the virus and begin spreading the disease.



Heavy accumulation of fluids in the area above the eye causes swelling typical of AHS.



Eyes and eyelids swell; fluids also cause swellings in the head and neck.



Small, well-defined hemorrhages develop in eye membranes.



In the cardiac form of AHS, the animal's heart sac may partially fill with fluid.

## Signs of AHS

Signs of this disease are extremely variable because it occurs in four forms: pulmonary, cardiac, mixed, and mild.

Usually, acute signs are seen in horses, and acutely ill animals die within 5 days. Mules, donkeys, and other equines usually have infections so mild that AHS can go unnoticed. Consequently, in an area with many mules and donkeys but few horses, AHS may spread widely before it is diagnosed.

There is no successful treatment for animals infected with AHS.

**Pulmonary Form.** In the pulmonary form of AHS, the animals' lungs are seriously affected and often fill with fluid. Distinct signs of acute respiratory difficulty usually





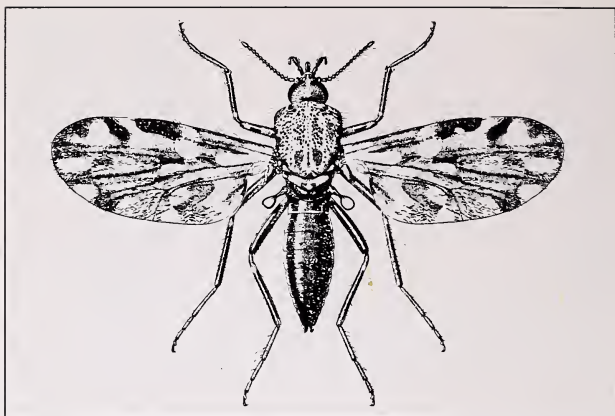
Some infected horses become emaciated, although they continue to eat.



After choking, staggering, and falling, a dying horse discharges a great volume of frothy material from its nostrils and mouth.

appear within 3 or 4 days of infection. Breathing becomes labored and rapid, and the animal's temperature rises.

As the disease progresses, the animal is seized by fits of coughing and may discharge large quantities of yellowish fluid from the nostrils. The head and neck are extended, ears droop, and sweating is severe. Curiously, the animal's appetite may remain normal. Finally, the animal



Tiny gnats of the *Culicoides* group are responsible for spreading AHS from infected equines to healthy ones. (magnified x12)

chokes, staggers, and falls, discharging a great volume of frothy material from its nose and mouth.

If an affected animal recovers, it continues to have difficulty in breathing for a long time after other signs of AHS disappear.

**Cardiac Form.** In cardiac AHS, signs develop more slowly and may last as long as 12 days. Recovery from cardiac AHS is more common than from the pulmonary form. The animal's heart is affected; the heart sac may partially fill with fluid. Distinct swellings of the head, neck, and chest are classic signs of the disease. The area above the eyes, the eyelids, and the lips become swollen with accumulated fluid. Small, well-defined hemorrhages develop in eye membranes.

A characteristic of AHS can be clearly shown by pressing a finger against a swelling for a few seconds. The fluid flows into nearby tissues. When the pressure is removed, a depression remains until the fluid returns to the original site.

Infected animals show signs of abdominal pain but do not lose their appetites. There are distinct signs of heart failure before the animal dies.

**Mixed Form.** The mixed form of AHS develops rapidly and affects both the lungs and the heart. Diseased horses often breathe with difficulty and develop characteristic swellings.

In some outbreaks of the mixed form of AHS, many animals die; in others, many recover.



**Mild Form.** The mild form of the disease, sometimes called horse sickness fever, frequently goes undetected. A brief rise in temperature, an accelerated pulse, slightly labored breathing, and some loss of appetite may be the only indications of infection. Animals recover quickly.

## **How the United States Protects Its Animals**

The U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) maintains a constant alert to protect American livestock from foreign animal diseases, such as AHS.

Because of this disease, APHIS restricts imports of equines from Africa, the Iberian Peninsula, and an area extending from Africa to Turkey and Bangladesh. Equines from restricted areas can be imported only through the port of New York. This requirement covers all equines that originate in restricted areas, as well as all equines that move through or stay in restricted areas within 60 days of shipment to the United States. At New York, equines imported from these areas are kept under observation in an APHIS insect-controlled facility for 60 days.

## **Control**

If AHS were to gain entrance into the Western Hemisphere, it would have little difficulty in finding susceptible horse, mule, and donkey hosts. Then—unless effective controls were employed—it might become widely distributed by native insects.

Control requires early recognition of the signs of AHS and prompt notification of authorities. A full-scale State–Federal eradication program will be undertaken immediately if the disease is diagnosed in this country. Such a program would

- Restrict movement of animals from suspected as well as known areas of infection.
- Require immediate slaughter and disposal of all infected animals.
- Apply insect-control measures—including the treatment of ponds, lakes, slow-moving water, and other breeding places—in the affected area.
- Make regular use of insecticide sprays for animals, stables, and barns.
- Provide for the stabling of horses in the affected area at night, to guard them against the bites of night-flying insects.

## How You Can Help

- Know the signs of AHS.
- Examine your horses, donkeys, and mules regularly; look for abnormal conditions.
- Protect all equines from biting insects.
- If you find animals with signs of AHS, isolate them in well-screened quarters. Notify your veterinarian, State or Federal animal disease-control officials, or county agricultural agent at once.
- Keep your equines on your farm when they have an unfamiliar or undetermined respiratory disease.
- If AHS is diagnosed in your herd or nearby, cooperate with animal disease-control officials and your neighbors to get rid of the disease.

This is one of a series of publications designed to acquaint American livestock producers with foreign animal diseases and the steps to take if an outbreak is suspected. For more information about foreign animal diseases, contact your local veterinarian, your county agent, or State or Federal animal disease-control officials.

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